

Case 2:08-cv-00397-ES-JAD Document $\frac{191-3}{\text{Exhibit}}$ Filed 02/07/11 Page 2 of 23 PageID: 3868

Summary of Efficiency Factors for Schering-Plough Corp. Common Stock

Factor	Summary of Factor	Schering Common Stock
Average Weekly Trading Volume Cammer I	"Turnover measured by average weekly trading of 2% or more of the outstanding shares would justify a strong presumption that the market for a security is an efficient one; 1% would justify a substantial presumption."	\bullet The average weekly trading volume of 3.65% as a percentage of shares outstanding well exceeds the standard of 2% that would justify a strong presumption of an efficient market (11.364 million shares traded daily).
Analyst Coverage Cammer II	"it would be persuasive to allege a significant number of securities analysts followed and reported on a company's stock during the class period. The existence of such analysts would imply, for example, the [auditor] reports were closely reviewed by investment professionals, who would in turn make buy/sell recommendations to client investors."	 During the Class Period at least 18 securities analysts issued 235 analyst reports, which implies that important information relevant to trading Schering Common Stock was widely communicated to the market.
Market Makers Cammer III	"For over the counter markets without volume reporting, the number of market makers is probably the best single criterion. Ten market makers for a security would justify a substantial presumption that the market for the security is an efficient one; five market makers would justify a more modest presumption."	Because the Common Stock was exchange-traded on the NYSE, not over the counter, this factor.
SEC Form S-3 Eligibility Cammer IV	"It would be helpful to allege the Company was entitled to file an S-3 Registration Statement in connection with public offerings or, if ineligible, such ineligibility was only because of timing factors rather than because the minimum stock requirements set forth in the instructions to Form S-3 were not met. Again, it is the number of shares traded and value of shares outstanding that involve the facts which imply efficiency."	• S-3 Eligible as they filed one on 8/2/2007; therefore, this factor is satisfied.
Price Reaction to New Information Cammer V	"one of the most convincing ways to demonstrate [market] efficiency would be to illustrate, over time, a cause and effect relationship between company disclosures and resulting movements in stock price."	The event study demonstrates a clear cause and effect relationship. A statistical test shows a significant contemporaneus relationship between new firm-specific news and material changes in the market price of Schering Common Stock.
Market Capitalization	Firms with a larger market capitalization tend to have "larger institutional ownership and tend to be listed on the New York Stock Exchange with a greater analyst following."	 Schering Common Stock easily meets this criteria. As of December 29, 2006 and December 13, 2007, Schering's market capitalization was \$33.872B and \$42.066B which is at or above the 96th percentile of NYSE and NASDAQ stocks. Insiders never held more than 1% of the shares outstanding.
Bid-Ask Spread	The bid-ask spread represents a measure of the cost to transact in a market. Narrow bid-ask spreads indicate less uncertainty regarding valuation and that reasonably sized trades will not substantially impact the market price. Wider bid-ask spreads indicate greater liquidity costs and less ability to trade without moving the market price.	 Based on a random sample of stocks, Schering's Common Stock bid-ask spread is lower than 88% of the stocks that traded on the NYSE and NASDAQ. This supports a finding of efficiency.
Institutional Holdings	Institutional investors are considered to be sophisticated, well-informed investors with access to most publicly available information for the stocks that they own.	• Institutions held at least 78.92% of the shares outstanding, which further supports finding that Schering Common Stock traded in an efficient market.
Autocorrelation	If autocorrelation is persistent and sufficiently large that a trader could profit from taking advantage of the autocorrelation, it suggests market inefficiency because past price movements are not fully reflected in the current price.	• No evidence of autocorrelation, which means that there was no systematic opportunity for a trader to profit from trading Schering Common Stock based solely on its past price movements.

Exhibit 3
Schering-Plough Corp. Common Stock Daily Closing Price & Volume 4/25/2006 - 6/26/2008

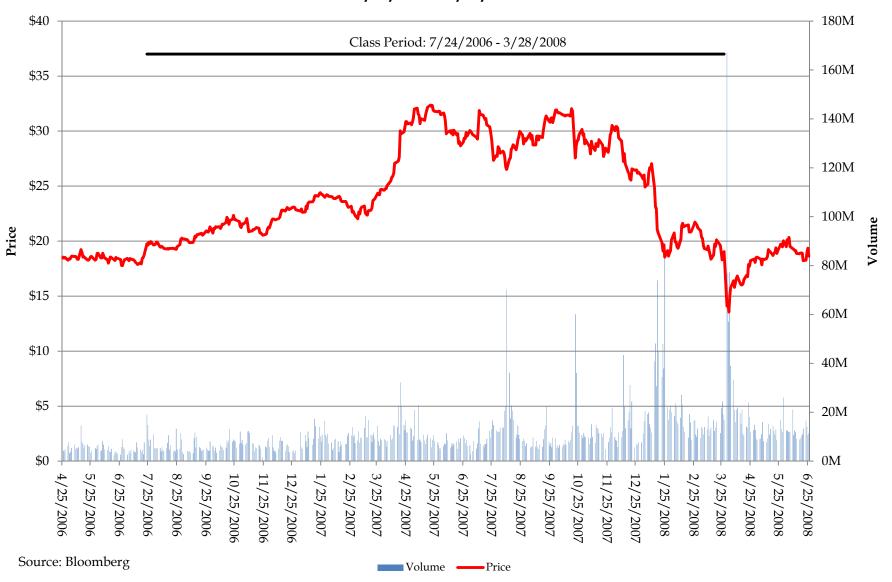
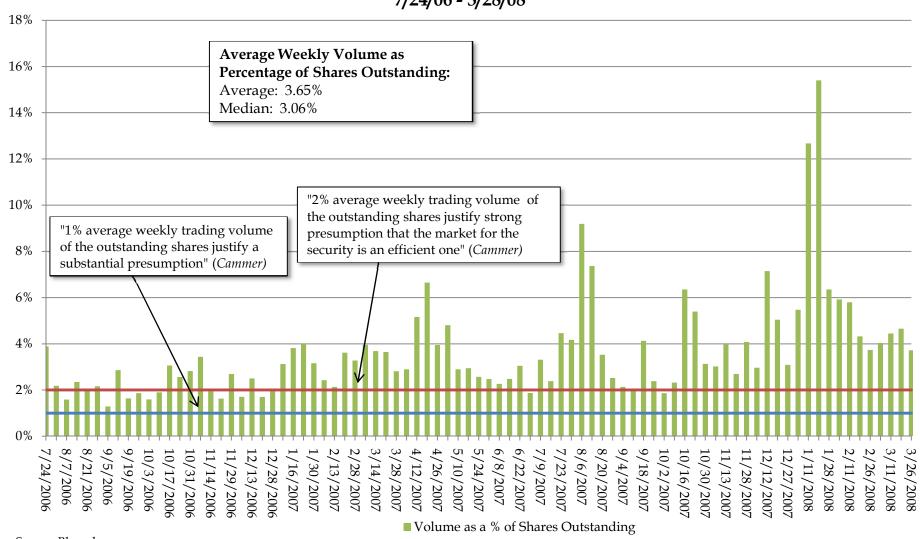


Exhibit 4
Schering-Plough Corp. Common Stock Average Weekly Trading Volume
As a Percentage of Shares Outstanding
7/24/06 - 3/28/08



Note: The last week consists of only three trading days and is excluded from the "Average Weekly Volume as Percentage of Shares Outstanding" calculations.

Exhibit 5
Summary of Available Schering-Plough Corp. Securities Analyst Reports and Credit Rating Reports During the Class Period

Common Stock Reports

Credit Rating Reports

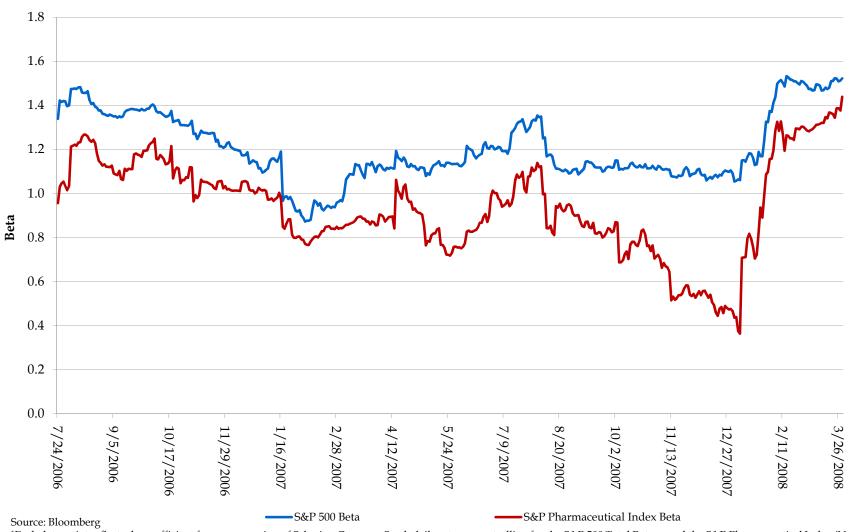
	Total
AB BERNSTEIN	1
AG EDWARDS	12
BARCLAYS CAPITAL	23
BEAR STEARNS	25
CITIGROUP	4
CHANNEL TREND	6
COWEN & CO.	52
CREDIT SUISSE	15
DEUTSCHE BANK	14
HSBC	8
JP MORGAN	2
LEHMAN BROTHERS	5
MERRILL LYNCH	7
MORGAN STANLEY	10
NATIXIS BLEICHROEDER	14
PRUDENTIAL EQUITY GROUP, INC.	12
RAPID RATINGS	4
VALUENGINE, INC.	11
Total	225

	Total
FITCH RATINGS	7
Total	7

Source: Analyst Reports obtained from Counsel

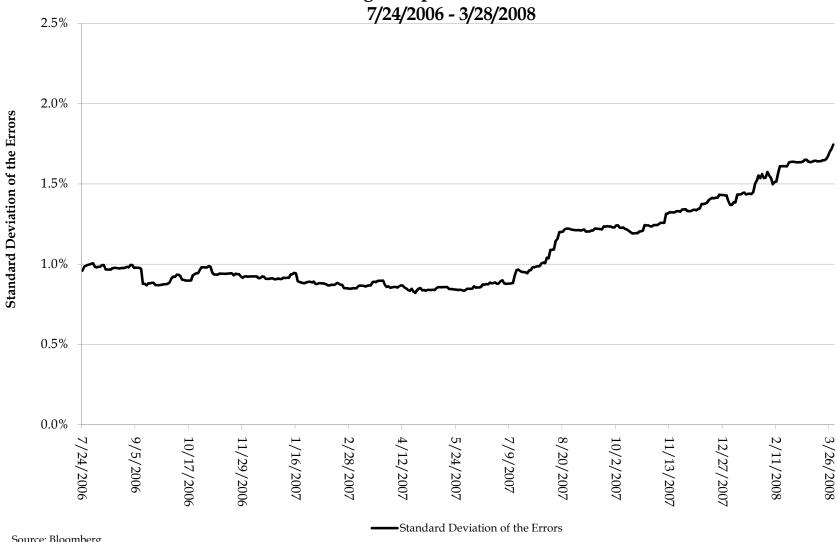
Note: The research reports from Channel Trend are all provided by Best Independent Research, LLC.

Exhibit 6
Coefficients from Rolling Regression for Schering-Plough Corp. Common Stock¹
7/24/2006 - 3/28/2008



¹Each data point reflects the coefficient from a regression of Schering Common Stock daily returns controlling for the S&P 500 Total Return and the S&P Pharmaceutical Index (Net of S&P 500 Total Returns) that excludes Schering and Merck using data from the previous 120 trading days. I have removed outliers with Schering-specific news (observations with extremely high abnormal returns) and disclosure dates from the regression model. These dates are December 4, 2006, April 19, 2007, October 22, 2007, December 12, 2007, January 14, 2008, January 15, 2008, and January 17, 2008.

Exhibit 7 Standard Deviation of the Errors from Rolling Regression Model for Schering-Plough Corp. Common Stock¹



¹Each data point reflects the coefficient from a regression of Schering Common Stock daily returns controlling for the S&P 500 Total Return and the S&P Pharmaceutical Index (Net of S&P 500 Total Returns) that excludes Schering and Merck using data from the previous 120 trading days. I have removed outliers with Schering-specific news (observations with extremely high abnormal returns) and disclosure dates from the regression model. These dates are December 4, 2006, April 19, 2007, October 22, 2007, December 12, 2007, January 14, 2008, January

Exhibit 8 Schering-Plough Corp. Common Stock Abnormal Returns¹ 7/24/2006 - 3/31/2008



¹Each data point reflects the abnormal return from a regression of Schering Common Stock daily returns controlling for the S&P 500 Total Return and the S&P Pharmaceutical Index (Net of S&P 500 Total Returns) that excludes Schering and Merck using data from the previous 120 trading days. I have removed outliers with Schering-specific news (observations with extremely high abnormal returns) and disclosure dates from the regression model. These dates are December 4, 2006, April 19, 2007, October 22, 2007, December 12, 2007, January 14, 2008, January 15, 2008, and January 17, 2008.

Exhibit 9 Schering-Plough Corp. Common Stock Market Capitalization Compared to Companies Traded on NYSE & NASDAQ

Last Trading Day of :	Shares Outstanding (In Millions)	Market Price Per Share	Market Cap (In Millions)	Percentile Rank in NYSE ¹	Percentile Rank in NYSE & NASDAQ ²
December 29, 2006	1,483	\$23.64	\$35,048	92nd	96th
December 31, 2007	1,620	\$26.64	\$43,149	93rd	97th

Sources: Bloomberg

 $^{^{1)}}$ 92% of the companies in the NYSE have a market capitalization lower than Schering-Plough Corp.

²⁾ 96% of the companies in the NYSE and NASDAQ combined have a market capitalization lower than Schering-Plough Corp.

Exhibit 10
Schering-Plough Corp. Common Stock Shares Outstanding, Insider Holdings and Institutional Holdings

Date	Shares Outstanding (in 000s)	Insider Holdings (in 000s) ⁽¹⁾	Insider Holdings % of Shares Outstanding	Total Institutional Holdings (in 000s)	Institutional Holdings % of Shares Outstanding
6/30/2006	1,481,050	6,440	0.43%	1,163,238	78.54%
9/30/2006	1,481,323	6,440	0.43%	1,168,997	78.92%
12/31/2006	1,482,571	6,440	0.43%	1,202,409	81.10%
3/31/2007	1,487,744	9,376	0.63%	1,384,731	93.08%
6/30/2007	1,489,389	9,376	0.63%	1,337,068	89.77%
9/30/2007	1,619,722 ⁽²⁾	9,376	0.58%	1,450,352	89.54%
12/31/2007	1,619,722	9,376	0.58%	1,439,869	88.90%
3/31/2008	1,621,000	10,424	0.64%	1,450,162	89.46%

Sources: Capital IQ; Bloomberg; SEC Schedule 14a, 2006 - 2008; Form 8-K filed with the SEC on 8/13/2007; Prospectus Supplement.

⁽¹⁾ Proxy statements are issued once per year, therefore, insider holdings are carried through the year from the date of first announcement. There were 6,439,673 shares of insider holdings as of 2/27/2006; 9,376,097 shares of insider holdings as of 3/28/2007; and 10,423,714 shares of insider holdings as of 3/28/2008.

⁽²⁾ Increase in shares outstanding is accounted for by issuance of 57.5 million new Common Shares on 8/9/2007 and 8/14/2007 and conversion of 2004 Mandatory Preferred shares into approximately 66 million Common Shares on 9/14/2007.

Exhibit 11 Autocorrelation Coefficients By Calendar Quarter for Schering-Plough Common Stock

Coefficient on Previous Day

	=======================================				
Quarter	Abnormal Return ¹	T-statistic			
2006Q3	0.06	0.39			
2006Q4	-0.22	-1.76			
2007Q1	-0.07	-0.57			
2007Q2	0.07	0.50			
2007Q3	0.17	1.34			
2007Q4	0.13	1.05			
2008Q1 ⁽²⁾	0.01	0.08			
7/24/2006 - 3/31/2008	0.04	0.90			

¹For each quarter I perform a regression with the abnormal return from the event study as the dependent variable and the previous day's abnormal return as the independent variable. I have removed outliers with Schering-specific news (observations with extremely high abnormal returns) and disclosure dates from the regression model. These dates are December 4, 2006, April 19, 2006, October 22, 2007, December 12, 2007, January 14, 2008, January 15, 2008, and January 17, 2008.

Exhibit 12 Schering-Plough Corp. Preferred Stock Cusip 58933Y204 Daily Closing Price & Volume 7/24/2006 - 6/26/2008

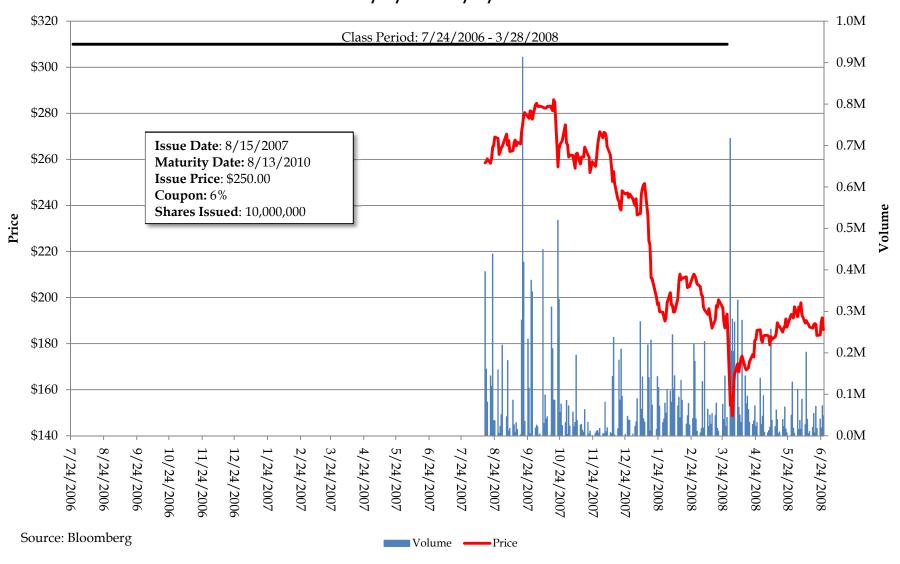


Exhibit 13 Summary of Schering-Plough Corp. Preferred Stock

CUSIP [1]	Issuer [2]	Description [3]	Issue Date [4]	Maturity Date [5]	Exchange [6]	Issue Price [7]	Shares Issued [8]	Amount Issued (Millions) [8]
58933Y204	Schering-Plough Corp.	6% Mandatory Convertible Stock	8/15/2007	8/13/2010	NYSE	\$250.00	10,000,000	\$2,500

Other Details

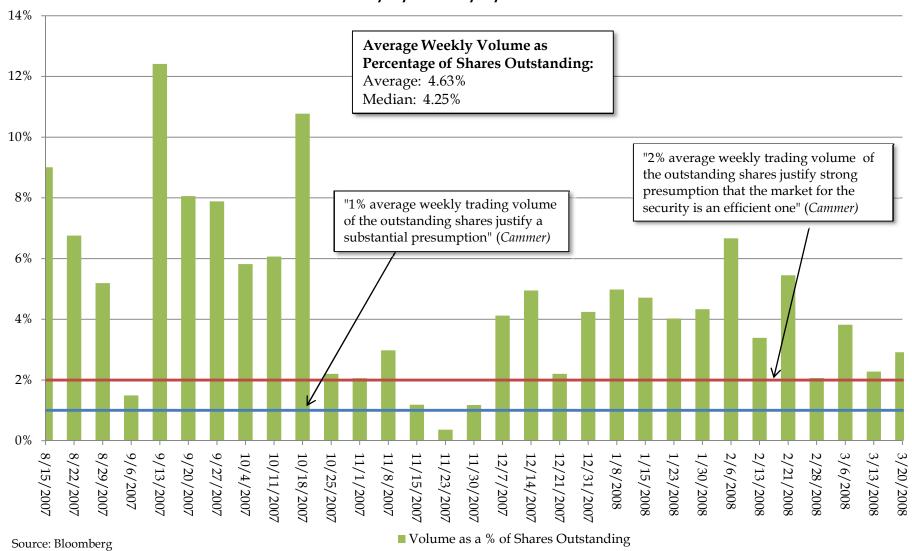
- 1 The 2007 Preferred Stock was approved for listing on the New York Stock Exchange under the symbol "SGP PrB."
- 2 Each share of the 2007 Preferred Stock had a liquidation preference of \$250, plus accrued, cumulated and unpaid dividends.
- Dividends will accrue and cumulate from the date of issuance and Schering-Plough will pay dividends in cash on February 15, May 15, August 15 and November 15 of each year prior to August 13, 2010 and on August 13, 2010. The first dividend payment will be made on November 15, 2007 in the amount of \$3.75 per share of the 2007 Preferred Stock, which reflects the time period from the date of issuance to November 14, 2007.
- Each share of the 2007 Preferred Stock would automatically be converted on August 13, 2010, into between 7.4206 and 9.0909 common shares, subject to anti-dilution adjustments depending on the average closing price per share of the common shares over the 20 trading day period ending on the third trading day prior to such date.
- 5 At any time prior to August 13, 2010, holders may elect to convert each share of the 2007 Preferred Stock into 7.4206 common shares, subject to anti-dilution adjustments.
 - If the closing price per share of the common shares exceeds \$50.53 for at least 20 trading days within a period of 30 consecutive trading days, Schering-Plough may elect, subject to certain limitations, to cause the conversion of all, but not less than all, of the shares of 2007 Preferred Stock then outstanding at the conversion rate of 7.4206 common shares per share of the 2007 Preferred Stock, provided that at the time of such conversion Schering-Plough is then legally permitted to and does pay an amount
- 6 common shares per share of the 2007 Preferred Stock, provided that at the time of such conversion Schering-Plough is then legally permitted to and does pay an amount equal to any accrued, cumulated and unpaid dividends (other than dividends payable to previous record holders) plus the present value of all remaining future dividend payments at that time.

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Summary of Efficiency Factors for Schering-Plough Corp. Preferred Stock

Factor	Summary of Factor	Schering Preferred Stock
Average Weekly Trading Volume Cammer I	"Turnover measured by average weekly trading of 2% or more of the outstanding shares would justify a strong presumption that the market for a security is an efficient one; 1% would justify a substantial presumption."	• Average weekly trading volume of 4.63% as a percentage of shares outstanding, well more than the 2% required by the standard to justify a strong presumption that the market for Schering Preferred Stock is efficient (92,336 shares traded daily).
Analyst Coverage Cammer II	"it would be persuasive to allege a significant number of securities analysts followed and reported on a company's stock during the class period. The existence of such analysts would imply, for example, the [auditor] reports were closely reviewed by investment professionals, who would in turn make buy/sell recommendations to client investors."	 Preferred Stock was rated by Fitch and Moody's. The hundreds of securities analyst reports covering Schering common stock are also relevant to an evaluation of the Preferred Stock. This level of coverage is indicative that Schering Preferred Stock traded in an efficient market.
Market Makers Cammer III	"For over the counter markets without volume reporting, the number of market makers is probably the best single criterion. Ten market makers for a security would justify a substantial presumption that the market for the security is an efficient one; five market makers would justify a more modest presumption."	Because the Preferred Stock traded on the NYSE, not over-the-counter, the this factor is satisfied.
SEC Form S-3 Eligibility Cammer IV	"It would be helpful to allege the Company was entitled to file an S-3 Registration Statement in connection with public offerings or, if ineligible, such ineligibility was only because of timing factors rather than because the minimum stock requirements set forth in the instructions to Form S-3 were not met. Again, it is the number of shares traded and value of shares outstanding that involve the facts which imply efficiency."	\bullet S-3 Eligible as they filed one on $8/2/2007$; there this factor is satisfied.
Price Reaction to New Information Cammer V	"one of the most convincing ways to demonstrate [market] efficiency would be to illustrate, over time, a cause and effect relationship between company disclosures and resulting movements in stock price."	The event study demonstrates a clear cause and effect relationship. A statistical test shows a significant contemporaneus relationship between new firm-specific news and material changes in the market price of Schering Preferred Stock
Market Capitalization	Firms with a larger market capitalization tend to have "larger institutional ownership and tend to be listed on the New York Stock Exchange with a greater analyst following."	As of December 31, 2007, Schering's market capitalization was \$2.43B. Even when compared to common stocks, Schering Preferred Stock is above the 75th percentile among NYSE and NASDAQ stocks. This fact is supportive of an efficiency finding.
Bid-Ask Spread	The bid-ask spread represents a measure of the cost to transact in a market. Narrow bid-ask spreads indicate less uncertainty regarding valuation and that reasonably sized trades will not substantially impact the market price. Wider bid-ask spreads indicate greater liquidity costs and less ability to trade without moving the market price.	• Based on a random sample of one hundred NYSE and NASDAQ stocks, in March of 2008, 49% of stocks had higher bid-ask spread than the Preferred Stock. This also supports an efficiency finding.
Institutional Holdings	Institutional investors are considered to be sophisticated, well-informed investors with access to most publicly available information for the stocks that they own.	The initial purchasers of Preferred Shares were overwhelmingly instittions and therefore these securities were held and traded by presumably sophisticated and well-informed investors.
Autocorrelation	If autocorrelation is persistent and sufficiently large that a trader could profit from taking advantage of the autocorrelation, it suggests market inefficiency because past price movements are not fully reflected in the current price.	There is no evidence of consistent autocorrelation, meaning that there is nothing to suggest a profitable arbitrage opportunity for traders of Preferred Stock. This is further evidence that Schering Preferred Stock traded in an efficient market.

Exhibit 15
Schering-Plough Corp. Preferred Stock Average Weekly Trading Volume
As a Percentage of Shares Outstanding
8/15/2007 - 3/28/2008



Note: The last week consists of only one trading days and is excluded from the "Average Weekly Volume as Percentage of Shares Outstanding" calculations.

Exhibit 16 Schering-Plough Corp. Securities Annualized Turnover Velocity

Securities	Year	Annualized Turnover Velocity	NYSE Turnover Velocity
Common Stock ⁽¹⁾	2006	111.9%	134.3%
Common Stock	2007	181.1%	166.9%
Common Stock ⁽²⁾	2008	339.5%	240.2%
Preferred Stock ⁽³⁾	2007	249.8%	166.9%
Preferred Stock ⁽⁴⁾	2008	211.4%	240.2%

Sources: Bloomberg; http://www.world-exchanges.org/statistics

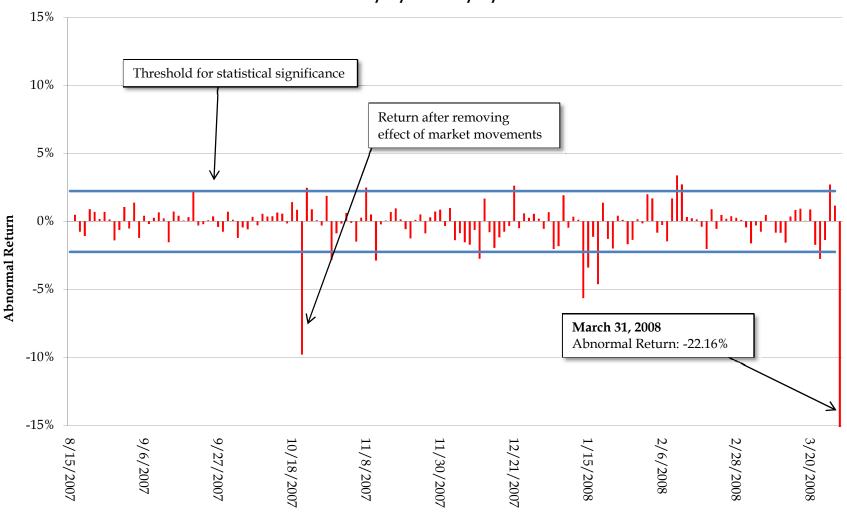
¹⁾ Data range: 7/24/2006 to 12/29/2006

²⁾ Data range: 1/1/2008 to 3/28/2008

³⁾ Data range: 8/15/2007 to 12/31/2007

⁴⁾ Data range: 1/1/2008 to 3/28/2008

Exhibit 17 Schering-Plough Corp. Preferred Stock Cusip 58933Y204 Abnormal Returns¹ 8/15/2007 - 3/31/2008



¹Each data point reflects an abnormal value from a regression of Schering Preferred Stock returns controlling for the S&P 500 Total Return and the S&P Pharmaceutical Index Returns (Net of Market) that excludes Schering and Merck using data from the issue date to the end of the Class Period. I have removed outliers with Schering-specific news (observations with extremely high abnormal returns) and disclosure dates from the regression model. These dates are October 22, 2007, December 12, 2007, January 14, 2008, January 15, 2008, and January 17, 2008.

Exhibit 18 Schering-Plough Corp. Preferred Stock Market Capitalization Compared to Common Stocks Traded on NYSE & NASDAQ

6% Fixed Convertible (Issued 8/15/2007)

Date	Units Outstanding (MM)	Market Price	Market Cap (MM)	Percentile Rank in NYSE ⁽¹⁾	Percentile Rank in NYSE & NASDAQ ⁽²⁾
December 31, 2007	10	\$242.81	\$2,428	49th	75th

Sources: Bloomberg, Prospectus

¹⁾ 49% of the companies in the NYSE have a market capitalization lower than Schering-Plough Corp. Preferred Stock.

²⁾ 75% of the companies in the NYSE and NASDAQ combined have a market capitalization lower than Schering-Plough Corp. Preferred Stock.

Exhibit 19 Autocorrelation Coefficients By Calendar Quarter for Schering-Plough Preferred Stock

Coefficient on **Previous Day**

Quarter	Abnormal Return ¹	T-statistic
2007Q3	-0.19	-1.02
2007Q4	0.11	0.92
2008Q1	0.25	1.92
8/15/2007 - 3/31/2008	0.15	1.87

¹For each quarter I perform a regression with the abnormal return from the event study as the dependent variable and the previous day's abnormal return as the independent variable. I have removed outliers with Schering-specific news (observations with extremely high abnormal returns) and disclosure dates from the regression model. These dates are October 22, 2007, December 12, 2007, January 14, 2008, January 15, 2008, and January 17, 2008.

Exhibit 20 Summary of Put-Call Parity Test

Option-Date Pairs	11564	
Violations of Put-C	all Parity	11
Violations as % of 7	Гotal Observations	0.10%
Constraints:	$S_0 - D - K \le C_{ask} - P_{bid}$	
Constraints:	C_{bid} - $P_{\text{ask}} \le S_0$ - Ke^{-rT}	

¹ The ask price for the Call option and the bid price for the Put option was used for the lower bound; and the bid price for the Call and the ask price for the Put option was used for the upper bound in the inequality above.

Definition of Variables:

- S₀ Current stock price for SGP (unadjusted for dividends).
- D Present Value of future dividends, calculated as:

$$\sum_{j=1}^{n} \frac{D_{j}}{\left(1+r\right)^{T_{j}}}$$

where D_j is the dividend amount, r is the risk-free (and constant) interest rate covering the life of the option and ending closest to the expiration date, and T_j time until dividend payout expressed in years.

- K Strike price of the option.
- C Call price.
- P Put price.
- r Risk-free (and constant) interest rate covering the life of the option and ending closest to the expiration date.
- T Time until expiration expressed in years.

Source: Ivolatility

Exhibit 21
Statistical Test of Abnormal Returns on Example Corrective Disclosure Events for Schering
Common Stock

Date	Return	Abnormal Return	Abnormal Dollar Change	T-Stat	Event
1/14/2008	-7.97%	-8.42%	-\$2.28	-5.84	ENHANCE study results released. No significant benefits were found and in fact, patients taking Vytorin suffered from slightly more adverse events than those taking Zocor.
3/31/2008	-25.99%	-28.45%	-\$5.42	-16.25	The full and detailed ENHANCE results were disclosed and discussed at the ACC Conference in Chicago. Lead expert panelist on Vytorin, Dr. Krumholz of Yale, stated that the clinical benefit was dubious and that Vytorin should therefore be used only as a last resort. He urged doctors and physicians to revert back to "cheaper and clinically proven statins."
Total Ab	Total Abnormal \$ Change:				

Sources: Bloomberg and Factiva

Exhibit 22
Statistical Test of Abnormal Returns on Example Corrective Disclosure Events for Schering Preferred Stock

Date	Return	Abnormal Return	Abnormal Dollar Change	T-Stat	Event
1/14/2008	-5.64%	-5.64%	-\$14.06	-4.94	ENHANCE study results released. No significant benefits were found and in fact, patients taking Vytorin suffered from slightly more adverse events than those taking Zocor.
3/31/2008	-20.54%	-22.16%	-\$42.73	-19.41	The full and detailed ENHANCE results were disclosed and discussed at the ACC Conference in Chicago. Lead expert panelist on Vytorin, Dr. Krumholz of Yale, stated that the clinical benefit was dubious and that Vytorin should therefore be used only as a last resort. He urged doctors and physicians to reverback to "cheaper and clinically proven statins."
Total Abnormal \$ Change:			-\$56.79		

Sources: Bloomberg and Factiva

Exhibit 23 Statistical Test of Abnormal Return of Schering Option Price Indices

Call Options Put Options Abnormal Index Abnormal Index Index **Average Return** Date Return Return **T-Statistic** Return **T-Statistic** -5.85 * -36.38% -37.50% 44.02% 1/14/2008 3/31/2008 -71.22% -81.44% -10.23 * 109.65% 120.11% 15.53 *

(1) The index was constructed by using the following formula:

$$r_{t} = \sum_{i=1}^{N} \frac{o_{i(t-1)}(p_{it} - p_{i(t-1)})}{o_{i(t-1)}(p_{i(t-1)})}$$

Where r_t represents the return on the index o_{it} is the open interest on option series i at time t and p_{it} is the price of option series i at time t.

- (2) The abnormal index return controls for the S&P 500 Total Return and the S&P Pharmaceutical Index Returns (Net of Market) which excludes Schering and Merck using data from the issue date to the end of the Class Period.
 - * Denotes statistical significance based upon the 95% confidence interval.

Source: IVolatility, Bloomberg